

INDEX OF AUTHORS

VOLUME XIV

TRANSACTIONS OF AMERICAN SOCIETY FOR STEEL TREATING

July, 1928—December, 1928

B

Bain, Edgar C.	27
Bason, G. F.	932
Bureau of Standards Staff	
.....502, 744, 893	

Knowlton, H. B. ...	127, 300, 415, 580
---------------------	--------------------

L

Larsen, B. M.	355
--------------------	-----

C

Cope, L. S.	51
Cox, John L.	225
Curran, J. J.	809

M

McMullan, O. W.	477
McQuaid, H. W.	719
Merten, W. J.	193
Miller, S. W.	61

D

Davis, Ernest F.	831
-----------------------	-----

P

Palmer, Frank R.	469, 877
-----------------------	----------

G

German, H. M.	343
--------------------	-----

R

Rolf, Raymond L.	72
-----------------------	----

H

Hegel, G. W.	377
Hobrock, Raymond H.	337
Hoyt, Samuel L.	695

S

Searle, Wilbur C.	927
Shepherd, B. F.	67
Sikes, A. W.	355
Sisco, F. T.	177, 767, 859
Staff, Bureau of Standards	
.....502, 744, 893	
Strauss, Jerome	1

J

Job, Robert	239
Jones, Donovan	199

W

K

Ketcham, W. J.	719
Kinzel, A. B.	248, 866

Warner, D. M.	177
Williams, F. H.	211
Williams, J. H. G.	809
Wills, W. H.	363
Wohrman, C. R.	81, 255, 385, 539

INDEX OF SUBJECTS AND AUTHORS OF PAPERS

VOLUME XIV

TRANSACTIONS OF AMERICAN SOCIETY FOR STEEL TREATING

July, 1928—December, 1928

A

Abnormal Case Carburizing Steels; Note on the Effect of Heat Treatment on— <i>B. M. Larsen and A. W. Sikes</i>	355
Additions for Engineering Applications; Silicon-Manganese Steels with Chromium— <i>A. B. Kinzel</i>	866
Address; President's Annual	661
Adjustment of Residual Stresses; Heat Treatment of Forgings and Castings for Selective Directional— <i>W. J. Merten</i>	193
Allotropic Changes of Iron; An Assumption as to the Cause of the— <i>Donovan Jones</i>	199
Alloy Steel; Note on the Expansion Due to Nitration of a Special— <i>Raymond H. Hobrock</i>	337
Alloy Steel Castings; Tentative Recommended Practice for the Heat Treatment of	935
Annual Banquet	680
Annual Convention and Exposition	655
Annual Report; Secretary's	664
Annual Report; Treasurer's	671
Applications of the Principal Types of Tool Steel; On the Nature and— <i>W. H. Wills</i>	363
Applications; Silicon-Manganese Steels with Chromium Additions for Engineering— <i>A. B. Kinzel</i>	866
Aspects of the Nitriding Process; Some Practical— <i>H. W. McQuaid and W. J. Ketcham</i>	719
Assumption as to the Cause of the Allotropic Changes of Iron— <i>Donovan Jones</i>	199
Atmospheres; Decarburization of High Carbon Steel in Reducing— <i>J. J. Curran and J. H. G. Williams</i>	809
Automobile Drive Shaft— <i>Raymond L. Rolf</i>	72

B

Banquet; Annual	680
-----------------------	-----

C

Carbide, a New Tool Material; Tungsten— <i>Samuel L. Hoyt</i>	695
Carbon Pearlitic Manganese Steels; Medium— <i>Jerome Strauss</i>	1
Carbon Steel in Reducing Atmospheres; Decarburization of High— <i>J. J. Curran and J. H. G. Williams</i>	809
Carburizing Steels; Note on the Effect of Heat Treatment on Abnormal Case— <i>B. M. Larsen and A. W. Sikes</i>	355
Case Carburizing Steels; Note on the Effect of Heat Treatment on Abnormal— <i>B. M. Larsen and A. W. Sikes</i>	355

Case Hardening; New Method of Nitrogen— <i>G. F. Bason</i>	932
Case Nitriding; Steels for— <i>A. B. Kinzel</i>	248
Cast Iron; Constitution of Steel and— <i>F. T. Sisco</i>	767
Castings; Tentative Recommended Practice for the Heat Treatment of Alloy Steel	935
Castings for Selective Directional Adjustment of Residual Stresses; Heat Treatment of Forgings and— <i>W. J. Merten</i>	193
Cause of the Allotropic Changes of Iron; An Assumption as to the— <i>Donovan Jones</i>	199
Change on the Properties of Quenched Steel; Effect of Quenching Temperature— <i>O. W. McMullan</i>	477
Changes of Iron; An Assumption as to the Cause of the Allotropic— <i>Donovan Jones</i>	199
Chapters; News of the	162, 333, 466, 644, 793, 960
Chromium Additions for Engineering Applications; Silicon-Manganese Steels with— <i>A. B. Kinzel</i>	866
Chromium-Molybdenum Sheet Steel; Effect of Heat Treatment on the Properties of— <i>F. T. Sisco and D. M. Warner</i>	177
Chromium-Nickel Steel; A Note on the Hardness and Impact Resistance of— <i>B. F. Shepherd</i>	67
Chromium-Silicon Steel; Effect of Quenching and Tempering on the Hardness and Impact Resistance of a High— <i>F. T. Sisco</i>	859
Cold Heading Dies; Hardening— <i>L. S. Cope</i>	51
Comment and Discussion	316, 435, 780
Comments Upon the Convention and Exposition; Press	651
Concerning Steel and Heat Treatment; Facts and Principles—Part XVIII, <i>H. B. Knowlton</i>	127
Concerning Steel and Heat Treatment; Facts and Principles—Part XIX, <i>H. B. Knowlton</i>	300
Concerning Steel and Heat Treatment; Facts and Principles—Part XX, <i>H. B. Knowlton</i>	415
Concerning Steel and Heat Treatment; Facts and Principles—Part XXI, <i>H. B. Knowlton</i>	580
Constituents of Stainless Steel; X-Rays and the— <i>Edgar C. Bain</i>	27
Constitution of Steel and Cast Iron— <i>F. T. Sisco</i>	767
Controlled Temperature Method; Heating of Steel by the— <i>G. W. Hegel</i> ..	377
Convention; Exposition and	627
Convention and Exposition; Annual	655
Convention and Exposition; Press Comments Upon the	651
Corrosion Resisting Steel; New Development in— <i>F. R. Palmer</i>	877

D

Decarburization of High Carbon Steel in Reducing Atmospheres— <i>J. J. Curran and J. H. G. Williams</i>	809
Design to Heat Treatment; Notes on the Relation of— <i>Frank R. Palmer</i> ..	469
Development in Corrosion Resisting Steel; New— <i>F. R. Palmer</i>	877
Dies; Hardening Cold Heading— <i>L. S. Cope</i>	51
Directional Adjustment of Residual Stresses; Heat Treatment of Forgings and Castings for Selective— <i>W. J. Merten</i>	193
Discussion and Comment	316, 435, 780
Drive Shaft; Automobile— <i>Raymond L. Rolf</i>	72
Due to Nitration of a Special Alloy Steel; Note on the Expansion— <i>Raymond H. Hobrock</i>	337

E

Effect of Heat Treatment on Abnormal Case Carburizing Steels; Note on the— <i>B. M. Larsen and A. W. Sikes</i>	355
Effect of Heat Treatment on the Properties of Chromium-Molybdenum Sheet Steel— <i>F. T. Sisco and D. M. Warner</i>	177
Effect of Quenching and Tempering on the Hardness and Impact Resistance of a High Chromium-Silicon Steel— <i>F. T. Sisco</i>	859

Effect of Quenching Temperature Change on the Properties of Quenched Steel— <i>O. W. McMullan</i>	477
Effects of Heat on the Physical Properties of Steel; Some— <i>John L. Cox</i>	225
Engineering Applications; Silicon-Manganese Steels with Chromium Additions for— <i>A. B. Kinzel</i>	866
Engineering Index	153, 321, 440, 612, 787, 940
Expansion Due to Nitration of a Special Alloy Steel; Note on the— <i>Raymond H. Hobrock</i>	337
Exposition; Annual Convention and	655
Exposition; Press Comments Upon the Convention and	651
Exposition and Convention	627

F

Facts and Principles Concerning Steel and Heat Treatment—Part XVIII, <i>H. B. Knowlton</i>	127
Facts and Principles Concerning Steel and Heat Treatment—Part XIX, <i>H. B. Knowlton</i>	300
Facts and Principles Concerning Steel and Heat Treatment—Part XX, <i>H. B. Knowlton</i>	415
Facts and Principles Concerning Steel and Heat Treatment—Part XXI, <i>H. B. Knowlton</i>	580
Failure of Steel; Types of— <i>Robert Job</i>	239
Failures and their Microstructure; Locomotive Part— <i>F. H. Williams</i>	211
Forgings and Castings for Selective Directional Adjustment of Residual Stresses; Heat Treatment of— <i>W. J. Merten</i>	193
Fusion Welding; Some General Thoughts on— <i>S. W. Müller</i>	61

G

Gearing; Metallurgical Problems of Transmission— <i>Ernest F. Davis</i>	831
General Thoughts on Fusion Welding; Some— <i>S. W. Müller</i>	61

H

Hardening; New Method of Nitrogen Case— <i>G. F. Bason</i>	932
Hardening Cold Heading Dies— <i>L. S. Cope</i>	51
Hardness and Impact Resistance of Chromium-Nickel Steel; A Note on the— <i>B. F. Shepherd</i>	67
Hardness and Impact Resistance of a High Chromium-Silicon Steel; Effect of Quenching and Tempering on the— <i>F. T. Sisco</i>	859
Hardness Testing— <i>H. M. German</i>	343
Heading Dies; Hardening Cold— <i>L. S. Cope</i>	51
Heat on the Physical Properties of Steel; Some Effects of— <i>John L. Cox</i>	225
Heat Treatment; Facts and Principles Concerning Steel and—Part XVIII, <i>H. B. Knowlton</i>	127
Heat Treatment; Facts and Principles Concerning Steel and—Part XIX, <i>H. B. Knowlton</i>	300
Heat Treatment; Facts and Principles Concerning Steel and—Part XX, <i>H. B. Knowlton</i>	415
Heat Treatment; Facts and Principles Concerning Steel and—Part XXI, <i>H. B. Knowlton</i>	580
Heat Treatment; Notes on the Relation of Design to— <i>Frank R. Palmer</i> ..	469
Heat Treatment of Alloy Steel Castings; Tentative Recommended Practice for the	935
Heat Treatment of Forgings and Castings for Selective Directional Adjustment of Residual Stresses— <i>W. J. Merten</i>	193
Heat Treatment of Steel; Principles of the— <i>Bureau of Standards Staff</i>	502, 744, 893
Heat Treatment on Abnormal Case Carburizing Steels; Note on the Effect of— <i>B. M. Larsen and A. W. Sikes</i>	355

Heat Tre
Effe
Heating
Will
Heating
High Ca
J. J
High Ch
Har
High Sp
Wil

Impact
and
Impact
ing
Inclusio
Index, I
Iron; A
Do
Iron; C
Iron; I

Lead;
W
Locom

Manga
Manga
tic
Materi
Mediu
Metall
Metho
Metho
Micro
Molyb
C
Molte
R

Natur
New
New
New
New
News
News
Nick

Heat Treatment on the Properties of Chromium-Molybdenum Sheet Steel; Effect of— <i>F. T. Sisco and D. M. Warner</i>	177
Heating High Speed Steel to 2400 Degrees Fahr., in Molten Lead— <i>Wilbur C. Searle</i>	927
Heating of Steel by the Controlled Temperature Method— <i>G. W. Hegel</i> ..	377
High Carbon Steel in Reducing Atmospheres; Decarburization of— <i>J. J. Curran and J. H. G. Williams</i>	809
High Chromium-Silicon Steel; Effect of Quenching and Tempering on the Hardness and Impact Resistance of a— <i>F. T. Sisco</i>	859
High Speed Steel to 2400 Degrees Fahr., in Molten Lead; Heating— <i>Wilbur C. Searle</i>	927

I

Impact Resistance of Chromium-Nickel Steel; A Note on the Hardness and— <i>B. F. Shepherd</i>	67
Impact Resistance of a High Chromium-Silicon Steel; Effect of Quench- ing and Tempering on the Hardness and— <i>F. T. Sisco</i>	859
Inclusions in Iron— <i>C. R. Wohrman</i>	81, 255, 385
Index, Engineering	153, 321, 440, 612, 787, 940
Iron; An Assumption as to the Cause of the Allotropic Changes of— <i>Donovan Jones</i>	199
Iron; Constitution of Steel and Cast— <i>F. T. Sisco</i>	767
Iron; Inclusions in— <i>C. R. Wohrman</i>	81, 255, 385

L

Lead; Heating High Speed Steel to 2400 Degrees Fahr., in Molten— <i>Wilbur C. Searle</i>	927
Locomotive Part Failures and their Microstructure— <i>F. H. Williams</i>	211

M

Manganese Steels; Medium Carbon Pearlitic— <i>Jerome Strauss</i>	1
Manganese Steels with Chromium Additions for Engineering Applica- tions; Silicon— <i>A. B. Kinzel</i>	866
Material; Tungsten Carbide, a New Tool— <i>Samuel L. Hoyt</i>	695
Medium Carbon Pearlitic Manganese Steels— <i>Jerome Strauss</i>	1
Metallurgical Problems of Transmission Gearing— <i>Ernest F. Davis</i>	831
Method; Heating of Steel by the Controlled Temperature— <i>G. W. Hegel</i> ..	377
Method of Nitrogen Case Hardening; New— <i>G. F. Bason</i>	932
Microstructure; Locomotive Part Failures and their— <i>F. H. Williams</i>	211
Molybdenum Sheet Steel; Effect of Heat Treatment on the Properties of Chromium— <i>F. T. Sisco and D. M. Warner</i>	177
Molten Lead; Heating High Speed Steel to 2400 Degrees Fahr., in— <i>Wilbur C. Searle</i>	927

N

Nature and Application of the Principal Types of Tool Steel; On the— <i>W. H. Wills</i>	363
New Development in Corrosion Resisting Steel— <i>F. R. Palmer</i>	877
New Method of Nitrogen Case Hardening— <i>G. F. Bason</i>	932
New Officers Nominated	645
New Tool Material; Tungsten Carbide, a— <i>Samuel L. Hoyt</i>	695
News of the Chapters	162, 333, 466, 644, 793, 960
News of the Society	455, 627
Nickel Steel; A Note on the Hardness and Impact Resistance of Chro- mium— <i>B. F. Shepherd</i>	67

Nitration of a Special Alloy Steel; Note on the Expansion Due to— <i>Raymond H. Hobrock</i>	337
Nitriding Process; Some Practical Aspects of the— <i>H. W. McQuaid and W. J. Ketcham</i>	719
Nitrification; Steels for Case— <i>A. B. Kinzel</i>	248
Nitrogen Case Hardening; New Method of— <i>G. F. Bason</i>	932
Nominated; New Officers	645
Note on the Effect of Heat Treatment on Abnormal Case Carburizing Steels— <i>B. M. Larsen and A. W. Sikes</i>	355
Note on the Expansion Due to Nitration of a Special Alloy Steel— <i>Raymond H. Hobrock</i>	337
Note on the Hardness and Impact Resistance of Chromium-Nickel Steel— <i>B. F. Shepherd</i>	67
Notes on the Relation of Design to Heat Treatment— <i>Frank E. Palmer</i> ..	469

O

Officers Nominated; New	645
On the Nature and Applications of the Principal Types of Tool Steel— <i>W. H. Wills</i>	363

P

Part Failures and their Microstructure; Locomotive— <i>F. H. Williams</i>	211
Patents; Reviews of Recent	149, 318, 436, 609, 783, 951
Pearlitic Manganese Steels; Medium Carbon— <i>Jerome Strauss</i>	1
Physical Properties of Steel; Some Effects of Heat on the— <i>John L. Cox</i> ..	225
Practical Aspects of the Nitriding Process; Some— <i>H. W. McQuaid and W. J. Ketcham</i>	719
Practice for the Heat Treatment of Alloy Steel Castings; Tentative Recom- mended	935
President's Annual Address	661
Press Comments Upon the Convention and Exposition	651
Principal Types of Tool Steel; On the Nature and Applications of the— <i>W. H. Wills</i>	363
Principles Concerning Steel and Heat Treatment; Facts and— <i>H. B. Knowlton</i>	127, 300, 415, 580
Principles of the Heat Treatment of Steel— <i>Bureau of Standards Staff</i>	502, 744, 893
Problems of Transmission Gearing; Metallurgical— <i>Ernest F. Davis</i>	831
Process; Some Practical Aspects of the Nitriding— <i>H. W. McQuaid and W. J. Ketcham</i>	719
Properties of Chromium-Molybdenum Sheet Steel; Effect of Heat Treat- ment on the— <i>F. T. Sisco and D. M. Warner</i>	177
Properties of Quenched Steel; Effect of Quenching Temperature Change on the— <i>O. W. McMullan</i>	477
Properties of Steel; Some Effects of Heat on the Physical— <i>John L. Cox</i> ..	225

Q

Quenched Steel; Effect of Quenching Temperature Change on the Pro- perties of— <i>O. W. McMullan</i>	477
Quenching and Tempering on the Hardness and Impact Resistance of a High Chromium-Silicon Steel; Effect of— <i>F. T. Sisco</i>	859
Quenching Temperature Change on the Properties of Quenched Steel; Effect of— <i>O. W. McMullan</i>	477

R

Recent Patents; Reviews of	149, 318, 436, 609, 783, 951
----------------------------------	------------------------------

Recommended Practice for the Heat Treatment of Alloy Steel Castings; Tentative	935
Reducing Atmospheres; Decarburization of High Carbon Steel in— <i>J. J. Curran and J. H. G. Williams</i>	809
Relation of Design to Heat Treatment; Notes on the— <i>Frank R. Palmer</i> ..	469
Report; Secretary's Annual	664
Report; Treasurer's Annual	671
Residual Stresses; Heat Treatment of Forgings and Castings for Selective Directional Adjustment of— <i>W. J. Merten</i>	193
Resistance of Chromium-Nickel Steel; A Note on the Hardness and Impact— <i>B. F. Shepherd</i>	67
Resistance of a High Chromium-Silicon Steel; Effect of Quenching and Tempering on the Hardness and Impact— <i>F. T. Sisco</i>	859
Resisting Steel; New Development in Corrosion— <i>F. R. Palmer</i>	877
Reviews of Recent Patents	149, 318, 436, 609, 783, 951

S

Secretary's Annual Report	664
Selective Directional Adjustment of Residual Stresses; Heat Treatment of Forgings and Castings for— <i>W. J. Merten</i>	193
Shaft; Automobile Drive— <i>Raymond L. Rolf</i>	72
Sheet Steel; Effect of Heat Treatment on the Properties of Chromium-Molybdenum— <i>F. T. Sisco and D. M. Warner</i>	177
Silicon-Manganese Steels with Chromium Additions for Engineering Applications— <i>A. B. Kinzel</i>	866
Silicon Steel; Effect of Quenching and Tempering on the Hardness and Impact Resistance of a High Chromium— <i>F. T. Sisco</i>	859
Society; News of the	455, 627
Some Effects of Heat on the Physical Properties of Steel— <i>John L. Cox</i> ..	225
Some General Thoughts on Fusion Welding— <i>S. W. Miller</i>	61
Some Practical Aspects of the Nitriding Process— <i>H. W. McQuaid and W. J. Ketcham</i>	719
Special Alloy Steel; Note on the Expansion Due to Nitration of a— <i>Raymond H. Hobrock</i>	337
Stainless Steel; X-Rays and the Constituents of— <i>Edgar C. Bain</i>	27
Steel; Effect of Heat Treatment on the Properties of Chromium-Molybdenum Sheet— <i>F. T. Sisco and D. M. Warner</i>	177
Steel; Effect of Quenching and Tempering on the Hardness and Impact Resistance of a High Chromium-Silicon— <i>F. T. Sisco</i>	859
Steel; Effect of Quenching Temperature Change on the Properties of Quenched— <i>O. W. McMullan</i>	477
Steel; New Development in Corrosion Resisting— <i>F. R. Palmer</i>	877
Steel; Note on the Expansion Due to Nitration of a Special Alloy— <i>Raymond H. Hobrock</i>	337
Steel; Note on the Hardness and Impact Resistance of Chromium-Nickel— <i>B. F. Shepherd</i>	67
Steel; On the Nature and Applications of the Principal Types of Tool— <i>W. H. Wills</i>	363
Steel; Principles of the Heat Treatment of— <i>Bureau of Standards Staff</i>	502, 744, 893
Steel; Some Effects of Heat on the Physical Properties of— <i>John L. Cox</i> ..	225
Steel; Types of Failure of— <i>Robert Job</i>	239
Steel; X-Rays and the Constituents of Stainless— <i>Edgar C. Bain</i>	27
Steel and Heat Treatment; Facts and Principles Concerning— <i>H. B. Knowlton</i>	127, 300, 415, 580
Steel by the Controlled Temperature Method; Heating of— <i>G. W. Hegel</i> ..	377
Steel Castings; Tentative Recommended Practice for the Heat Treatment of Alloy	935
Steel and Cast Iron; Constitution of— <i>F. T. Sisco</i>	767
Steel in Reducing Atmospheres; Decarburization of High Carbon— <i>J. J. Curran and J. H. G. Williams</i>	809
Steel to 2400 Degrees Fahr., in Molten Lead; Heating High Speed— <i>Wilbur C. Searle</i>	927

Steels; Medium Carbon Pearlitic Manganese— <i>Jerome Strauss</i>	1
Steels; Note on the Effect of Heat Treatment on Abnormal Case Carburizing— <i>B. M. Larsen and A. W. Sikes</i>	355
Steels for Case Nitriding— <i>A. B. Kinzel</i>	248
Steels with Chromium Additions for Engineering Applications; Silicon-Manganese— <i>A. B. Kinzel</i>	866
Stresses; Heat Treatment of Forgings and Castings for Selective Directional Adjustment of Residual— <i>W. J. Merten</i>	193

T

Temperature Change on the Properties of Quenched Steel; Effect of Quenching— <i>O. W. McMullan</i>	477
Temperature Method; Heating of Steel by the Controlled— <i>G. W. Hegel</i> ..	377
Tempering on the Hardness and Impact Resistance of a High Chromium-Silicon Steel; Effect of Quenching and— <i>F. T. Sisco</i>	859
Tentative Recommended Practice for the Heat Treatment of Alloy Steel Castings	935
Testing, Hardness— <i>H. M. German</i>	343
Thoughts on Fusion Welding; Some General— <i>S. W. Miller</i>	61
Tool Steel; On the Nature and Applications of the Principal Types of— <i>W. H. Wills</i>	363
Tool Material; Tungsten Carbide a New— <i>Samuel L. Hoyt</i>	695
Transmission Gearing; Metallurgical Problems of— <i>Ernest F. Davis</i>	831
Treasurer's Annual Report	671
Treatment; Facts and Principles Concerning Steel and Heat— <i>H. B. Knowlton</i>	127, 300, 415, 580
Treatment; Notes on the Relation of Design to Heat— <i>Frank R. Palmer</i> ..	469
Treatment of Alloy Steel Castings; Tentative Recommended Practice for the Heat	935
Treatment of Forgings and Castings for Selective Directional Adjustment of Residual Stresses; Heat— <i>W. J. Merten</i>	193
Treatment of Steel; Principles of the Heat— <i>Bureau of Standards Staff</i>	502, 744, 893
Treatment on Abnormal Case Carburizing Steels; Note on the Effect of Heat— <i>B. M. Larsen and A. W. Sikes</i>	355
Treatment on the Properties of Chromium-Molybdenum Sheet Steel; Effect of Heat— <i>F. T. Sisco and D. M. Warner</i>	177
Tungsten Carbide, a New Tool Material— <i>Samuel L. Hoyt</i>	695
Types of Tool Steel; On the Nature and Applications of the Principal— <i>W. H. Wills</i>	363
Types of Failure of Steel— <i>Robert Job</i>	239

W

Welding; Some General Thoughts on Fusion— <i>S. W. Miller</i>	61
---------------------------------------------------------------------	----

X

X-Rays and the Constituents of Stainless Steel— <i>Edgar C. Bain</i>	27
----------------------------------------------------------------------------	----

1
55
48
66
93

77
77
59
35
43
61
63
95
31
71
80
69
35
93
93
55
77
95
63
99

1

7